

CLAIMS

1. Process for reducing the sagging of a gypsum-based element, comprising the introduction into the gypsum-based composition, before the setting and hardening of the latter, of tartaric acid or tartaric acid salts, in a quantity greater than 0.001% by weight with respect to the weight of the calcium sulphate semihydrate contained in the gypsum-based composition.  
5
2. Process according to claim 1, characterized in that, in percentages by weight with respect to the weight of the calcium sulphate semihydrate in the composition, from 0.003% to 0.45% and preferably from 0.005 to 0.05% of tartaric acid or tartaric acid salt(s) are introduced into the gypsum-based composition.  
10
3. Process according to claim 1 or claim 2, characterized in that, in percentages by weight with respect to the weight of the calcium sulphate semihydrate in the composition, up to 0.95% and preferably from 0.2% to 0.8% of boric acid or boric acid salt(s) are also introduced into the gypsum-based composition.  
15
4. Process according to any one of claims 1 to 3, characterized in that the tartaric acid comprises a mixture of L and D forms.  
20
5. Process according to any one of claims 1 to 3, characterized in that the tartaric acid comprises a mixture of L, D and meso forms.
- 25 6. Process according to one of claims 1 to 5, characterized in that at least one foaming agent is also introduced into the gypsum-based composition.
- 30 7. Process according to claim 6, characterized in that the foaming agent comprises an alkali or alkaline-earth metal alkylsulphate, preferably an alkylsulphate of formula  $H(CH_2)_nOSO_3M^+$ , in which n is from 6 to 16 and the average number of carbon atoms in the alkylsulphate composition,  $n_m$  is comprised between 10 and 11, and M is a monovalent cation.
- 35 8. Process according to one of claims 1 to 7, characterized in that at least one alkali or alkaline-earth metal phosphate is also introduced into the gypsum-based composition.

9. Process according to claim 8, characterized in that said alkali or alkaline-earth metal phosphate is introduced in a quantity of 0.5% maximum, and preferably less than 0.2% by weight, with respect to the weight of the calcium sulphate semihydrate.

5

10. Process according to claim 8 or claim 9, characterized in that the alkali or alkaline-earth metal phosphate is sodium trimetaphosphate.

11. Process according to one of claims 1 to 10, characterized in that the  
10 gypsum-based element is a gypsum board.

12. Gypsum-based composition comprising, in percentages by weight with respect to the weight of the calcium sulphate semihydrate in the composition, from 0.003% to 0.45% of tartaric acid or tartaric acid salt(s) and from 0.05% to  
15 0.95% of boric acid or boric acid salt(s).

13. Gypsum-based composition according to claim 12, comprising, in percentages by weight with respect to the weight of the calcium sulphate semihydrate in the composition, from 0.005% to 0.05% of tartaric acid or tartaric acid salt(s) and  
20 from 0.2% to 0.8% of boric acid or boric acid salt(s).

14. Gypsum-based composition according to claim 12 or 13, comprising, in percentages by weight with respect to the weight of the calcium sulphate semihydrate in the composition, from 0.02% to 0.03% of tartaric acid or tartaric acid  
25 salt(s) and from 0.4% to 0.7% of boric acid or boric acid salt(s).

15. Gypsum-based composition according to any one of claims 12 to 14, characterized in that the tartaric acid comprises a mixture of L and D forms.

30 16. Gypsum-based composition according to any one of claims 12 to 14, characterized in that the tartaric acid comprises a mixture of L, D and meso forms.

17. Gypsum-based composition according to one of claims 12 to 16, also comprising a foaming agent.

35

18. Gypsum-based composition according to claim 17, characterized in that the foaming agent is an alkali or alkaline-earth metal alkylsulphate, preferably an alkylsulphate of formula  $H(CH_2)_nOSO_3^-M^+$ , in which n is from 6 to 16 and the

average number of carbon atoms in the alkylsulphate composition  $n_m$  is comprised between 10 and 11, and M is a monovalent cation.

19. Gypsum-based composition according to one of claims 12 to 18, also  
5 comprising an alkali or alkaline-earth metal phosphate.

20. Gypsum-based composition according to claim 19, characterized in  
that it contains at the most 0.5% and preferably less than 0.2% by weight, of said  
alkali or alkaline-earth metal phosphate with respect to the weight of the calcium  
10 sulphate semihydrate.

21. Gypsum-based composition according to claim 19 or claim 20,  
characterized in that said alkali metal or alkaline-earth metal phosphate is sodium  
trimetaphosphate.

15 22. Gypsum-based element with reduced sagging, obtained by hydraulic  
setting and hardening of a composition according to one of claims 12 to 21.

20 23. Element according to claim 22, characterized in that it is a gypsum  
board.

24. Use of tartaric acid or tartaric acid salt(s) for the reduction of the  
sagging of a gypsum-based element.

25 25. Process for manufacturing a gypsum-based element with reduced  
sagging, in which tartaric acid, or one or more of its salts, and boric acid, or one or  
more of its salts, is introduced into the gypsum-based composition, before the  
hydraulic setting and hardening of the latter.

30 26. Process for manufacturing a gypsum-based element with reduced  
sagging, in which tartaric acid, or one or more of its salts, and boric acid, or one or  
more of its salts, is introduced into the gypsum-based composition, after the  
hydraulic hardening of the latter, by soaking.

35 27. Process according to claim 25 or 26, characterized in that the gypsum-  
based element is a gypsum board.